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The Commonwealth of Massachusetts
Department of Education

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REPORT ON THE EFFECT OF PROPOSITION 2½ ON MASSACHUSETTS SCHOOL DISTRICTS, 1981 - 1982

I. INTRODUCTION

After Massachusetts voters approved Proposition 2½ in November, 1980 and thereby voted to restrain local government spending, people interested in education began to wonder about the effects of this new law and many educators began to investigate the reaction of local school officials to the prospect of declining budgets.

During the winter and spring of 1981, school committees prepared budgets that not only had to encompass these lowered resources but also were subject for the first time to the consent of the municipal councils and executives. School committees had lost their fiscal autonomy and even frugal school budgets could be reduced by elective bodies with no experience at this task.

In the meantime, the legislature began debating ways to maintain local services but the ultimate solution of an increase in state aid was not enacted until two months before the new school year was to begin. Even then, school committees could not depend on the municipal bodies to share this increase.

So, the nine months of planning that preceded the beginning of the 2½ limitations were a time for hectic and short-lived decisions and professional 2½ watchers had a wide scope of action to view.

This report, prepared by the staff of the Bureau of Data Collection and Processing of the Department of Education, does not consider the motives or opinions of the people who determined the budget, staff and programs of the 1981 - 1982 school year. Rather, we have analyzed the measurable effects of Proposition 2½ on education in Massachusetts. We have not discovered whether the Commonwealth's public schools are better or worse or whether the taxpayers are satisfied with educational services. We have confirmed common suppositions about the effects of Proposition 2½ and discovered some unexpected reactions to this law's stringencies.

This report was written primarily by Roger Hatch, Principal Planner, with additional research by Mary Jane McDonnell, Educational Specialist IV, and Phyllis Rogers, Educational Specialist II, under the direction of Thomas Collins, Director, who accepts responsibility for its accuracy and conclusions.

The educational information analyzed was supplied by the Massachusetts public schools through the End-of-Year Pupil and Financial Report, Individual School Report and School System Summary Report.

Computer programming of this data was performed by Margaret Boyd, Senior Supervisor and Paul Burgoyne, EDP Programmer III.

The Massachusetts Department of Revenue provided information on municipal levies and expenditures.

II. Changes in Local Revenues and Spending.

Proposition 2½ limited the amount of revenue that municipalities can raise in relation to their property valuation. No city or town can impose taxes greater than 2½% of its full valuation and total levy revenues cannot increase more than 2½% a year. Most of the first year's reductions in revenue were accounted for by a 9.3% decline in the local property tax, which fell from $3.347 to $3.036 billion. Motor vehicle excise taxes were also reduced by $145.0 million or 62%. Proposition 2½ imposed a total revenue loss of $456.0 million on the Commonwealth's cities and towns.

This reduction could have been worse if the legislature had not increased local aid substantially. The municipalities themselves increased or instituted fees for services and curtailed fiscal 1980 - 1981 expenditures to produce surpluses that would roll-over into fiscal 1981 - 1982. Because of these counter-measures, local spending fell only $108.0 million or 1.9% below the 1980 - 1981 level of $5.676 billion.

Non-school expenditures actually went up slightly (.9%). In fiscal year 1981 they stood at $3.267 billion. By fiscal year 1982 they were $28 million higher, at $3.295 billion. The unfortunate news for education, therefore, is that schools had to bear the brunt of the cutbacks in total expenditures.

School committee expenditures dropped by $136.0 million from $2.408 billion in 1980 - 1981. The average school district lost $350,000 or 5.5% of its budget before 2½. Although some school committees were actually able to increase spending, seven out of ten districts had to make do with less money in 1981 - 1982. Fifty-three districts cut costs by ten percent or more and several systems' expenditures were reduced by almost 25%. Moreover, the districts with reduced budgets were responsible for the education of 82.5% of the school children in Massachusetts.

The size of the reductions exacted on school budgets appears even more formidable when one realizes that in the year prior to 2½ no more than 24 systems had cut expenditures.

School committees, therefore, were compelled to make difficult choices without the benefit of experience in budget reductions.

TABLE I
School Committee Expenditures
1980 - 1981 to 1981 - 1982

Percent Change In Expenditures	Actual Change (Million $)	School Districts #	School Districts %	1981 - 1982 Enrollment #	1981 - 1982 Enrollment %
-10 or greater	- 65.0	53	13.7	170,459	18.0
-5 to -10	- 72.4	104	26.9	420,144	44.3
0 to -5	- 13.2	119	30.7	191,876	20.2
0 to +5	5.6	77	19.9	124,447	13.1
+5 to +10	3.8	25	6.5	21,323	2.2
+10 or greater	8.1	9	2.3	20,649	2.2
TOTAL:	133.1	387	100.0%	948,898	100.0

NOTE: 5 districts were excluded because of reorganization or invalid data.

III. Changes in School Expenditures and Revenues.

In the first year of 2½, school committees lost their legal right to set budgets at whatever level they chose. Until 1981 - 1982, municipal approriating bodies were bound to give pro forma approval to these budgets and raise sufficient revenues from state and local sources to fund them.

Once the total expenditures available for education were determined under Proposition 2½, however, school officials maintained the right to allocate these funds among the various expenditure categories.

On the whole, school expenditures declined by 5.5% and this rate was closely followed by the 5% decline in teaching expenditures. Since these latter costs account for more than half of the total educational budget in both years, it would be surprising if there were any wide difference between the two rates of change. When a school committee is obliged to reduce its costs substantially, the teaching budget is the only line item big enough to yield enough of a cut.

The next section will report more fully on the size and extent of the reduction on teaching staff. Here, we will summarize the functional expenditures that changed contrary to the trend.

a. Areas of Markedly Decreased Expenditures.

School committees surprised no one by reducing local expenditures for programs not mandated by law or at least not governed by stringent regulations on staffing.

For example, school committee expenditures for evening and adult programs fell at extremely high rates, although tuition charges and other fees helped to limit the total expenditure reduction. Overall, local funds for these programs fell 59.8%, fees increased 78.9% and enrollment declined from 225,894 to 118,421 or 47.6%.

The school committee budget for food programs was cut by $9.1 million or 54.4%. $7.0 million more in user fees were charged but total expenditures (including a $9.0 million reduction in federal aid) fell 15.7% and pupil participation in the lunch program dropped from 543,741 to 407,480 pupils.

Extracurricular athletic and student body activity budgets dropped by 21.4% and 28.5% respectively. User fees rose 23.0%.

Civic activity costs declined 21.7% and recreation budgets were 51.4% less in 1981 - 1982 than in the previous year.

Purchase of new land and buildings for schools fell 34.0%, from $12.7 million to $8.4 million (these figures include expenditures from municipal as well as school committee budgets). During the same period, 278 schools were closed while only 16 opened.

New equipment purchases declined 36.2% and textbook costs were reduced by 29.7%.

b. Areas of Increased or Level Expenditure.

General administrative costs (superintendents, assistants and staff) dropped only 0.2% and administrative support expenditures (business managers, accounting, data processing) declined only 0.3%.

Transportation costs rose 2.8% even though the number of pupils transported was 7.9% less than in 1980 - 1981.

Insurance and employee benefits rose 25.9% and 12.0% respectively, probably because of higher unemployment taxes and early retirement incentives.

IV. School District Staff.

In the first year of Proposition 2½, 11.8% or 7,782 full time equivalency teaching positions were eliminated and 9,355 other jobs were cut. These declines represent a 14.3% reduction in total school committee employees.

Teacher aides, foreign language, art, drama, and music teachers all were laid off at above average rates. On the other hand, science and math teaching jobs were not reduced as much.

One of the biggest declines was in the number of reading teachers (22.2% drop) and there was another large reduction in the number of guidance counselors (17.6%).

Librarians and audio-visual specialists also declined at above average rates (23.2% and 23.8% respectively).

Clearly, school committees chose to reduce costs in programs that many observers might consider expendable but which the Board of Education has chosen for increased emphasis in Massachusetts Schools.

Proponents of Proposition 2½ demanded the repeal of fiscal autonomony because they claimed that school officials were not adapting their staffs and budgets to the declines in pupil enrollments. Even impartial observers will wonder how much of the staff cuts were due to the fiscal limits of Proposition 2½ and how much to the smaller school populations in most districts.

One way to simultaneously measure the relationship of teaching staffs, enrollments and budgets is to combine the first two variables into one - the pupil:teacher ratio. It must be noted that this figure contrasts districts' total enrollments with total teachers. However, since different grade levels and subjects have such a variety of staffing requirements, the pupil-teacher ratio is not the same as the average class size. Units of change in this ratio indicate how the number of teachers in a school district changed in relation to the pupil enrollment. The ratio can be contrasted to the budget change to estimate the relative effects of reduced funds for schools and a smaller pupil population. If pupil-teacher ratios rise, then more teachers have been cut than would be warranted by enrollment shifts. In 1982, budget declines must be considered the major reason for such an occurrence. On the other hand, if the ratios go down, then enrollment must be considered a primary cause for any layoffs. Because each school committee is obliged to maintain staff at levels it considers appropriate and because there are no state regulations or standards on the optimum pupil-teacher ratio, we have assumed here that each school committee aims at maintaining its district's ratio from year to year.

Between 1980 - 1981 and 1981 - 1982, the median pupil-teacher ratio rose by nearly one unit from 15.3 to 16.2. Of the 379 operating districts, 273 had more pupils per teacher in 1982 than in the year before. Thirty of these districts increased their ratios by more than three units.

TABLE II
Change in Pupil:Teacher Ratios
1980 - 1981 to 1981 - 1982

Units of Change	Number of Districts	Percent of Total
+3 to +10	30	8.0
+2 to +3	47	12.5
+1 to +2	83	22.1
0 to +1	111	29.5
-10 to 0	105	27.9

These results suggest that in most districts, more teachers were eliminated than would have been warranted by smaller numbers of pupils. Further statistical measures demonstrate that pupil-teacher ratios rose significantly more in municipalities with levy losses than in those with levy gains. However, after controlling for other sources of revenue - including increases in state aid - it appears that declining enrollment and budget cuts assumed about equal importance in determining changes in the number of teaching positions.

Interestingly, the ten percent of the districts with the highest pupil:teacher ratios had a reduction in that variable significantly lower than average while the ten percent of the districts with the lowest ratios experienced an increase during the same period. As a result, the distribution of pupil:teacher ratios has become somewhat more centralized.

V. How did schools fare relative to other municipal services?

What was the typical "share" of local expenditures used for schools before and after implementation of 2½? This is an area of particular interest since under 2½, fiscal autonomy was eliminated for school committees. To answer this question, integrated school operating costs were compared to total local expenditures as reported to the Massachusetts Department of Revenue, providing two years of valid data for 335 of the state's 351 municipalities. While this information does not directly contrast school budgets with those of other local departments, it does act as a good estimator of school spending relative to all local expenditures.

In fiscal year 1981, school spending accounted for an average of 56.2% of total local outlays. In fiscal year 1982, this figure fell to 55.1%. The range of localities' percentages is quite wide due to the variety of municipalities' sizes and service burdens, but about three-quarters of them fall within plus or minus 15 percentage units of the mean (between 40 and 70 percent). In order to determine how each town fared, the gain or loss in percentage units was calculated. (For example, a town which went from 60.1% of total expenditures in fiscal year 1981 to 59.1% in fiscal year 1982 suffered a loss of -1.0 units.)

Results show that in a majority of towns (60.4%) schools had a lower share of expenditures in 1982 than in 1981.

A look at Table (III) shows that 46 municipalities' schools suffered large declines (more than -5 units). Interestingly, this group had the highest average percentage in 1981 (64.1%). Towns with more moderate changes (between -5 and +5 units) were much closer to the statewide average of 56.2%.

TABLE III
School Costs as a Percent of Total Local Costs
Percentage Units of Change FY 1981 to FY 1982

Category of Unit Change	Number of Districts	Percent of Total	Average % of Total in Fiscal Year 1981
More than -5.0	46	13.7	64.1
-5.0 to -2.0	82	24.5	53.4
-2.0 to 0	75	22.4	52.7
0 to 2.0	68	20.3	54.9
2.0 to 5.0	44	13.1	60.5
More than 5.0	20	6.0	61.4
TOTAL	335	100.0	56.2

Were the cities and towns whose percentages went down the ones most severely affected by the revenue constraints of 2½? Somewhat surprisingly, Table (IV) suggests this was not the case. The group which had the most severe levy losses (cuts of 10% or more) actually had a significantly smaller loss in their share of total expenditures (-.1) than those whose tax rates were low enough to allow them to raise levies (-1.7). This suggests that loss of fiscal autonomy was a m important factor than levy cuts in maintaining schools' position relative to oth local services.

TABLE IV
Percentage Units of Change FY 1981 - 1982
by Percent Change in Levy

Percent Change in Levy 1981-1982	N	Average Units of Change in School % of Total Local Exp.
-10% or greater	113	- .1
-10% to 0	103	- 1.3
0 and above	119	- 1.7

An important thing to remember is that the units of percentage change used as a criterion above measure only the position of schools relative to other local services. Increases in these units do not necessarily mean that schools did not suffer budget cuts. For example, although one district registered a 12.5 unit gain, going from 39.5 to 52.0 percent, integrated school costs actually were cut by five percent. It gained in its share only because total local expenditures fell 28%.

From a historical perspective, however, the decline in the share of municipal expenditures devoted to education has fallen back only to its level in fiscal year 1977 - 1978, as shown in Table V.

TABLE V
Share of Total Local Expenditures Devoted to Schools
Historical Trend

	FY78	FY79	FY80	FY81	FY82
Median Share	53.8	56.4	56.8	56.1	53.9

The increasing shares in fiscal year 1979 and 1980 might well have been due to the large increases in Chapter 70 aid for education in those years. Proposition 2½ seems to have wiped out these gains but at least it has not worsened education's relative position in the allocation of local dollars.

One caveat concerning the manner in which the percentages were calculated is that "total local expenditures" includes money set aside for tax abatements. It has been suggested that these reserves were held at lower levels in fiscal year 1982 then before. If this is true, then school percentages of the total will be somewhat higher than otherwise.

VI. Are Massachusetts Pupils Abandoning Public Schools?

In fiscal year 1981, there were 128,904 non-public school attending children, compared to 1,120,729 pupils in total. The number of non-public pupils grew by 3,916 to 132,820 in fiscal year 1982, when there was a total membership of 1,074,219. The non-public percentage of the total, therefore, rose from 11.50% to 12.36%.

TABLE VI

Non-Public Pupils as a Percent Total Pupils FY 1981 and FY 1982

% Non-Public Enrollment	Number of Cities & Towns in FY81	% of Total	Number of Cities & Towns in FY82	% of Total
0 - 2.5%	86	24.5	73	20.8
2.5 - 5%	86	24.5	70	19.9
5 - 7.5%	50	14.2	65	18.5
7.5 - 10%	44	12.5	32	9.1
10 - 12.5%	30	8.5	43	12.3
12.5% +	55	15.7	68	19.4

There was a slight upward shift among the percent categories. However, as Table VII shows, a quarter of the state's municipalities actually experienced reductions in their non-public enrollment percentages. Only 60 towns saw their percentages go up more than two units.

TABLE VII

Units of Change in Non-Public Percent of Total Pupils FY 1981 - 1982

Category Label	Number of Cities and Towns	Percent of Total
Below -1	26	7.4
-1 to 0	60	17.1
0 to 1	136	38.7
1 to 2	69	19.7
2 or more	60	17.1
TOTAL	351	100.0

From these data, it does not appear that there was any wholesale flight to non-public schools associated with the cuts occurring in the first year of 2½. The increase in the statewide percentage may be no more than the continuation of a trend which began in 1976, when the percentage was 10.6%. Since then it has grown slowly but steadily to the 11.5% mark in 1981. Statistical tests support the hypothesis that the fiscal restraints of 2½ did not create any sudden exodus to private schools. In fact, units of change in the non-public enrollment percentages show no significant correlation whatsoever with change in teachers, integrated operating costs, tax levies, or property wealth.

The expectations of many people that Proposition 2½ would increase the demand for non-public education have not been immediately realized. The changes over a longe period may indicate a different trend but so may the poor economy slow down any movement away from public education.

VII. Projected Effects of Proposition 2½ in 1982 - 1983.

In fiscal year 1981 - 1982, a large majority of municipalities had to lower their tax rates and levies. According to the Massachusetts Department of Revenue, only 34 cities and towns will be required to cut levies again in their attempts to reach a tax rate of 2½% of valuation. At first glance this indicates a milder impact than in the previous year, but even where the 2½% goal has been reached, levies are restricted from increasing any more than 2.5% over the 1982 figure. And even if communities vote to override this limit, levies must remain below 2½% of the localities' property value. In the long run, this last stipulation of the law may be its most troublesome.

This restriction is demonstrated by the preliminary estimates of levy change in fiscal year 1983. Although 316 communities will have the opportunity to raise their levies, it is projected that their total increase will be $45 million dollars. This compares to an expected decline of $144 million dollars in the 34 communities which will have to make cuts. If these figures hold true, then statewide levies will have fallen $-311 million (-9.2%) in 1982 and then another $-100 million (-3.0%) in 1983, lowering the total levy to $2.936 billion.

School Budgets

Anticipated fiscal year 1983 school budgets were submitted to the Department on the 1981 - 1982 End-of-Year Pupil and Financial Reports. Results show a net statewide gain of about $50 million, a 2% increase. Fewer districts will have to go through another round of cuts if the reported budgets prove to be accurate (Table VIII). While some of the losses which occurred in fiscal year 1982 may be regained, the 326 school systems which expect their 1983 budgets to rise will only increase by $87 million. Although only 59 expect further cuts, some of these cuts will once again be deep, totalling to $39 million. If one considers the two-year effect of 2½, there is still a net decline of -3.4%, ($-85 million) in total school budgets from $2.409 billion in fiscal year 1981 to $2.324 billion in fiscal year 1983. Table VIII demonstrates that 175 districts suffer a net loss over the two year period. For 36 of them, there is still a severe net cut of more than 10%.

TABLE VIII
Projected Expenditure and Budget Change in School Districts
Second Year of Proposition 2½ (FY 1983)

	Change From FY82 to FY83				Two Year Change From FY81 to FY83			
% Change	Number of Districts	% of Districts	FY 82 Pupils Served	% of Pupils	Number of Districts	% of Districts	FY 82 Pupils Served	% of Pupils
-10 or more	5	1.3	22,271	2.3	36	9.4	210,809	22.2
-5 to -10	11	2.9	116,199	12.2	48	12.5	159,240	16.8
0 to -5	43	11.2	145,665	15.4	91	23.6	240,522	25.3
0 to +5	137	35.6	332,159	35.0	104	27.0	209,050	22.1
+5 to +10	134	34.8	269,308	28.4	56	14.5	93,867	9.9
10 or more	55	14.3	63,296	6.7	50	13.0	35,410	3.7
TOTAL	385	100.0	948,898	100.0	385	100.0	948,898	100.0

Note: 7 districts were excluded because of reorganization or invalid data.

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